Type: Poster Presentation

Final Abstract Number: 51.048
Session: Emerging Infectious Diseases
Date: Friday, April 4, 2014
Time: 12:45-14:15
Room: Ballroom

Is Uganda a hub for zoonotic disease outbreaks? Lessons and challenges from ebola, marburg, yellow fever and anthrax outbreaks

I. Nabukenya[1,*], L. Lukwago[2], C. Okot[3], J.F. Wamala[2], M. Malimbo[2], E.M. Namukose[2], R. Musoke[2], M. Nanyunja[3], I. Makumbi[2]

[1] *Makerere University, Kampala, Uganda*
[2] *Uganda Ministry of Health, Kampala, Uganda*
[3] *World Health Organization, Kampala, Uganda*

Background: Zoonoses and vector-borne diseases currently form over 70% of the global emerging and re-emerging disease burden. In East Africa, Uganda has experienced eight zoonotic disease outbreaks in the past five years, impacting the response strategies. The objective was to document and share the challenges and lessons learnt in response and control of zoonotic outbreaks in Uganda.

Methods & Materials: We reviewed the epidemiology, outbreak investigation, response, control activities and reports during post-outbreak evaluation workshops. The challenges and lessons learnt from the input, process and outcome of notification, investigation, response and control efforts were summarized.

Results: All outbreaks were hemorrhagic in clinical presentation or after death. Ebola and Marburg are viral whereas Anthrax is bacterial and Yellow fever is viral mosquito-borne. We recorded reduced attack rates; highest in 2010/11 Yellow fever outbreak (273 cases and 54 deaths) followed by Ebola 2007 (149 cases and 37 deaths); Ebola 2012 (24 cases, 16 deaths); Marburg 2012 (28 cases and 15 deaths) while Anthrax 2009 had 13 cases, 5 deaths and 2011 had 5 cases 2 deaths.

Laboratory sample referral and processing improved; with Ebola 2007 confirmation in CDC-Atlanta but in-country confirmation was done in 2010, 2012 and field laboratory conducted in Marburg 2012 outbreak. Yellow fever and Anthrax were confirmed in-country. Surveillance and outbreak investigation improved but inadequate funds for early response remains a challenge. Infection control training and social mobilization during and after these outbreaks built capacity at national and sub-national levels, reducing health care worker mortality from three to two and one death in Ebola 2007, 2012 and Marburg 2012 respectively. Challenges included; delayed laboratory confirmation, funding subsequent surveillance and response activities, delay in early notification from health units or communities to district, national and international levels and laboratory results feedback (by 2-15 days at different levels).

Conclusion: Uganda has gained a lot of experience in investigating, diagnosing and controlling zoonotic disease outbreaks. Other countries in the region should utilize the lessons learnt to address similar challenges in case of such outbreaks.

http://dx.doi.org/10.1016/j.ijid.2014.03.916

Type: Poster Presentation

Final Abstract Number: 51.049
Session: Emerging Infectious Diseases
Date: Friday, April 4, 2014
Time: 12:45-14:15
Room: Ballroom

Spatio-temporal pattern of buruli ulcer in Ogun state, South Western Nigeria

P.I. Otuh[1,*], O.K. Adeyemo[2], F.O. Soyinka[3], E.E. Nwezza[4]

[1] *University of Ibadan, Nigeria, Iibadan, Nigeria*
[2] *University of Ibadan, Nigeria, Ibadan, Nigeria*
[3] *Ministry of Health, Ogun State., Abeokuta, Nigeria*
[4] *Federal University Alike Ikwo, Abakaliki, Nigeria*

Background: *Mycobacterium ulcerans* disease, a neglected tropical disease commonly referred to as buruli ulcer (BU) has a global geographical distribution in about 33countries with widely reported increased incidence in West African sub-region. The yet to be discovered mode of transmission has contributed greatly to the obscurity in proffering sustainable preventive and control measures. Early detection and prompt reporting of cases with timely treatment of patients seem helpful. On the contrary BU is a disease of the poor rural populace who most times have inadequate or no access to health care due to lack of presence of government facilities hence there is usually late or no report to appropriate quarters. BU causes chronic devastating skin ulcers and often bone disfiguration with majority of patients suffering rejection and stigmatization. Incidence, prevalence and mapping of BU is one of the top research priorities of WHO intervention plans. Geographical Information Science (GIS) have been widely applied in the field of infectious disease, environmental epidemiology and public health at large.

This study therefore was carried out to assess the distribution of BU in some communities of Ogun State by producing georeferenced maps showing the spatial pattern of BU cases with their clusters and hotspots.

Methods & Materials: Data on BU cases were retrieved from records of Hansen's Disease Centre, Iberekedo Abeokuta, Ogun state; reference center for BU. Addresses were located and geographic coordinates taken and recorded accordingly using eTrex handheld GPS. Self-administered structured questionnaire were carried out among consenting respondents from randomly selected local government areas of Ogun state. The coordinate locations generated were subsequently exported into ArcGIS 10 software and plotted as point locations. Spatial analysis and statistics were carried out to determine the high and low clusters of BU cases.

Results: The spatial pattern indicated radii of 2.81KM and 1.29KM for primary and secondary clusters respectively. The numerous rivers across the study areas reveal possible environmental risk factors associated with BU

Conclusion: This study serves as a preliminary attempt at mapping BU in Ogun state. It is anticipated that the results will serve as baseline information for continuous research on the epidemiology of *M.ulcerans* in Nigeria.

http://dx.doi.org/10.1016/j.ijid.2014.03.917